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EXAMINER
CHERY, MARDOCHEE

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
	10/564,817	MAEDA ET AL.
Office Action Summary	Examiner	Art Unit	
	MARDOCHEE CHERY	2186	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>04 May 2009</u>.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-15</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-15</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a) ☐ All b) ☐ Some * c) ☐ None of:

   1. ☐ Certified copies of the priority documents have been received.

   2. ☐ Certified copies of the priority documents have been received in Application No. _____.

   3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   This Office action is a reply to Applicant's communication filed May 4, 2009 in response to the Official action mailed February 4, 2009. The following addresses Applicant's latest remarks and/or amendments.

2.   In response to the last Office action, claims 1-15 have been amended. Claims 1-15 remain pending.

3.   The objection to the drawings is withdrawn in view of the amendment filed May 4, 2009.

4.   The objection to the specification is withdrawn in view of the amendment filed May 4, 2009.

5.   The objections to claims 1-15 are withdrawn in view of the amendment filed May 4, 2009.

6.   The rejection of claims 2-5, 8-11, and 13-15 under 35 USC 112 second paragraph as being indefinite is withdrawn in view of the amendment filed May 4, 2009.

Response to Arguments

7.   Applicant's arguments filed May 4, 2009 have been fully considered but they are not persuasive.

        a.   Applicant's representative argues on pages 27-32 of the remarks that the feature of "when said information processor accesses area management information that manages a free area state and link state of the information

recording area in said information recording medium, access size is changed

according to processing executed by said information processor", recited in claim

1 is not shown or suggested by Ohbi et al., Pfister et al., or any combination

thereof.

        Examiner respectfully disagrees. Ohbi discloses [*a status of managing*

parts which provide free areas and the free areas and the status is represented by

pointer by the link of part tables; Figs. 7, 14, 17; pars. 0176; *the handling of data in*

the FAT file system is performed on a file allocation table (FAT, i.e., area management

information) sector basis; a rewriting operation on the disk is performed (i.e., by a

processor) on a data cluster basis so that in the case of the rewriting of one particular

FAT sector, the rewriting on the disk is performed in a unit (i.e., access size) of the data

cluster in which this FAT sector is included (based on the data cluster in which the FAY

sector is included, the unit is changed); par. 0258].

b.   Applicant's representative argues on pages 28-32 of the remarks that the

features of "a FAT cache for reading and storing area management information

which manages a free state and link state of said information recording area from

said information recording medium; a volatile memory for holding data including:

a start address of each block, location of the area management information

stored in each block on said information recording medium, size of each block,

and presence or absence of update, as FAT cache management information for

managing said FAT cache by dividing said FAT cache into a plurality of blocks; a

FAT cache controller for referring to and updating said FAT cache management

information and controlling a read and change of said area management to said

FAT cache; and a file system controller for accessing the area management

information through said FAT cache controller and storing data in the information

recording medium as a file", recited in claim 12, are not shown or suggested by

Ohbi et al., Pfister et al., or any combination thereof.

Examiner respectfully disagrees. Ohbi discloses [*reading data cluster*

which includes the requested FAT sector (i.e., area management information), the

retrieved cluster is written in the cluster buffer memory (cache), rewriting data of the FAT

sector in the buffer memory (cache); pars. 0276, 0277, 0279; *a status of managing*

parts which provide free areas and the free areas and the status is represented by

pointer by the link of part tables; Figs. 7, 14, 17; pars. 0176]. Ohbi further

discloses [in Fig. 11, *volatile memory 5*; Fig. 7, *start address, end address, link*

information (i.e., location of the area management information and size of each block); a

status of managing parts which provide free areas and the free areas and the status is

represented by pointer by the link of part tables; Figs. 7, 14, 17; pars. 0176; Fig. 7,

the link information indicative of the table recording the start and end addresses of the

linked information is recorded; pars. 0165, 0176]. Still further, Ohbi discloses [in

Fig. 7; *checking for data modification/update*, par. 0140; *a sector specified so that the*

address of the program area and the address of the free area is recorded allowing

retrieval of the free area information; par. 0116; *a status of managing parts which*

provide free areas and the free areas and the status is represented by pointer by the link

of part tables; par. 0176; *the size of a logical sector is smaller that that of a cluster,*

therefore, in the disk drive, it is necessary to convert each logical sector into a physical

address wherein each of the logical sectors as FAT sectors is 2048 bytes, the numbers

starting with 0 and the data cluster 65536 bytes; Fig. 6, 7, 10; pars. 0333-0334,

0336] wherein [*controller 3 for buffer/cache memory 4; the controller 3 controls the transfer and recording of data; the buffer memory 4 buffers the data read under the control of controller 3; the controller 3 transfers stored in the buffer memory 4 as rewritten in necessary FAT sectors*; pars 0267, 0268, 0280], and [in Fig. 11, *controller 9 accesses management data through FAT buffer controller 3 and stores the data as a file; the controller 9 receives commands such as request to write and read and sending status information and other necessary information; the controller 9 performs control that the data of the requested FAT sector are read from the data stored in the buffer memory 4; the controller 9 supplies the data of the FAT sector to the memory controller 3 to cause it to rewrite the data of the FAT sector in the buffer memory 4*; par. 0271; 0277, 0279].

Claim Rejections - 35 USC § 112

8.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9.   Claims 3, 4, 5, 6-8, 10-11, 13, and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a.   In particular the recitation of "access size" or "access unit" in claims 3, 4, 5, 6, 9, 10, 13, 14, and 15 render the claims indefinite. It is unclear what that limitation entails especially when used in the sentence "a first access size determined from physical characteristics of an information recording medium or a size less than the first access size is used". Regarding "access unit", it also unclear what is meant by "access unit". Here, the term "unit" can be interpreted

as "size/number" but would take on a totally different connotation as used in "processing unit". Thus, the terms "access size" and "access unit" render the claims ambiguous to the point that the claimed subject matter cannot be construed accurately.

b.   Additionally, the limitations of "said information processor uses a first area management information cache having a _physical management block size determined from physical characteristics of said information recording medium or less_" and "when said information processor _executes said link destination acquisition processing_" render the claims indefinite. It is not clear what "less" is referring to and how or what is intended by a processor executes a link destination acquisition processing. Throughout the rejection, the broadest reasonable interpretation is in view and the claims will be construed as best understood by the Examiner.

Remarks

10.   Throughout the claims, "the access size" will be interpreted as "the block size or the cache block" as it appears in the disclosure.

Claim Rejections - 35 USC § 102

11.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

applicant for patent, except that an international application filed under the treaty defined in section
351(a) shall have the effects for purposes of this subsection of an application filed in the United States
only if the international application designated the United States and was published under Article 21(2)
of such treaty in the English language.

12.   Claims 1-5 and 12-15 are rejected under 35 U.S.C. 102(e) as being anticipated

by Ohbi (2004/0047602).

        As per claim 1, Ohbi discloses a data area managing method for an

information recording medium [*a recording medium having a data area having data and

first management data for managing the data*; par. 0017], the method is used in an

information processor that manages data stored in an information recording area

in the information recording medium as a file [*the data recording/reproducing based on

the first management data such as a FAT system*; par. 0047], wherein when said

information processor accesses to area management information that manages a

free area state and link state of the information recording area in said information

recording medium, access size is changed according to processing content in

said information processor [Fig. 7, *start address, end address, link information; a status of

managing parts which provide free areas and the free areas and the status is represented by

pointer by the link of part tables*; Figs. 7, 14, 17; pars. 0176; *one cluster is composed of four

link sectors*; par. 0221; *the FAT clusters store a FAT file system configured by FAT and data

files managed by FAT; par. 0257; the handling of data in the FAT file system is performed on a

FAT sector basis; a rewriting operation on the disk is performed on a data cluster basis so that in

the case of the rewriting of one particular FAT sector, the rewriting on the disk is performed in a

unit of the data cluster in which this FAT sector is included*; par. 0258].

As per claim 2, Ohbi discloses a processing content in said information

processor comprises: a free area retrieval processing for retrieving an free area

from said area management information [Fig. 7; *a sector specified so that the address*

of the program area and the address of the free area is recorded allowing retrieval of the free

area information; par. 0116; *a status of managing parts which provide free areas and the free*

areas and the status is represented by pointer by the link of part tables; par. 0176]; and a link

destination acquisition processing for acquiring a destination to be linked from

said area management information [Fig. 7, *the link information indicative of the table*

recording the start and end addresses of the linked information is recorded; pars. 0165,

0176].

As per claim 3, Ohbi discloses as the access size to said area

management information, when the processing content in said information

processor is said free area retrieval processing, a first access size determined

from physical characteristics of said information recording medium or a size less

than the size is used [*management data sector is specified so that the address of the free*

area is recorded; par. 0116; *management data recorded in the recordable area is the*

management information which is rewritten; par. 0131; *when recording to the disk, the disk*

drive apparatus searches sector 0 for the free area on the disk and records data in the free area;

pars. 0159; 175], and when the processing content in said information processor

is said link destination acquisition processing, a second access size that is an

access unit of said information recording medium is used [*one cluster is composed of*

4 link sectors; the physical address is assigned on a sector basis composed of cluster address as

the upper value and sector address as the lower value; pars. 0151, *the link information*

indicative of the table recording the start and end addresses of the linked information is recorded;

the start address and the end address are the values equivalent to the cluster/sector addresses;

pars. 0165].

As per claim 4, Ohbi discloses as the access size to said area

management information in said free area retrieval processing, when access to a

location other than a head or end of said area management information is

performed, a physical management block size determined from physical

characteristics of said information recording medium is used [*one cluster is*

composed of 4 link sectors; the physical address is assigned on a sector basis composed of

cluster address as the upper value and sector address as the lower value; pars. 0151; *when*

recording a track to the disk, the disk drive apparatus searches the sector 0 for the free area on

the disk and records data in the retrieved free area and later accesses the retrieved area; par.

0159], and when access to the head or end of said area management

information is performed, a size equal to or less than said physical management

block size is used [*the size of a logical sector is smaller that that of a cluster, therefore, in the*

disk drive, it is necessary to convert each logical sector into a physical address wherein each of

the logical sectors as FAT sectors is 2048 bytes, the numbers starting with 0 and the data cluster

65536 bytes; pars. 0333-0334, 0336].

As per claim 5, Ohbi discloses as the access size in accessing to the head

or end of said area management information is performed, the access size is a

size of said area management information in the physical management block

determined from physical characteristics of said information recording medium is

used [*when recording a track to the disk, the disk drive apparatus searches the sector 0 for the*

free area on the disk and records data in the retrieved free area and later accesses the retrieved

area; par. 0159; *the size of a logical sector is smaller that that of a cluster, therefore, in the disk*

drive, it is necessary to convert each logical sector into a physical address wherein each of the

logical sectors as FAT sectors is 2048 bytes, the numbers starting with 0 and the data cluster

65536 bytes; pars. 0333-0334, 0336].

As per claim 12, Ohbi discloses an information processor which accesses

to an information recording medium managing data stored in an information

recording area by a file system [*a recording medium having a data area having data and*

first management data for managing the data; par. 0017; *the data recording/reproducing based*

on the first management data such as a FAT system; par. 0047] comprising: a FAT cache

for reading and storing area management information which manages a free

state and link state of said information recording area from said information

recording medium [*reading data cluster which includes the requested FAT sector, the*

retrieved cluster is written in the cluster buffer memory (cache), rewriting data of the FAT sector in

the buffer memory; pars. 0276, 0277, 0279; *a status of managing parts which provide free*

areas and the free areas and the status is represented by pointer by the link of part tables; Figs.

7, 14, 17; pars. 0176]; a volatile memory for holding, data including a start

address of each block, location of the area management information stored in

each block on said information recording medium [Fig. 11, *volatile memory 5*; Fig. 7,

start address, end address, link information; a status of managing parts which provide free areas

and the free areas and the status is represented by pointer by the link of part tables; Figs. 7,

14, 17; pars. 0176; Fig. 7, *the link information indicative of the table recording the start and*

end addresses of the linked information is recorded; pars. 0165, 0176], size of each

block, and presence or absence of update, as FAT cache management

information for managing said FAT cache by dividing said FAT cache into a

plurality of blocks [Fig. 7; *checking for data modification, par. 0140; a sector specified so*

that the address of the program area and the address of the free area is recorded allowing

retrieval of the free area information; par. 0116; a status of managing parts which provide free

areas and the free areas and the status is represented by pointer by the link of part tables; par.

0176; *the size of a logical sector is smaller that that of a cluster, therefore, in the disk drive, it is*

necessary to convert each logical sector into a physical address wherein each of the logical

sectors as FAT sectors is 2048 bytes, the numbers starting with 0 and the data cluster 65536

bytes; Fig. 6, 7, 10; pars. 0333-0334, 0336]; a FAT cache controller for referring to

and updating said FAT cache management information and controlling a read

and change of said area management information to said FAT cache [Fig. 11,

checking for data modification, par. 0140; controller 3 for buffer/cache memory 4; the controller

3 controls the transfer and recording of data; the buffer memory 4 buffers the data read under the

control of controller 3; the controller 3 transfers stored in the buffer memory 4 as rewritten in

necessary FAT sectors; pars 0267, 0268, 0280]; and a file system controller for

accessing to the area management information through said FAT cache

controller and storing data in the information recording medium as a file [Fig. 11,

controller 9 accesses management data through FAT buffer controller 3 and stores the data as a

file; the controller 9 receives commands such as request to write and read and sending status

information and other necessary information; the controller 9 performs control that the data of the requested FAT sector are read from the data stored in the buffer memory 4; the controller 9 supplies the data of the FAT sector to the memory controller 3 to cause it to rewrite the data of the FAT sector in the buffer memory 4; par. 0271; 0277, 0279].

Asp per claim 13, Ohbi discloses said FAT cache has each of one or more blocks of two types of blocks of a block having the first access size and a block having the second access size [*FAT clusters #0 through #55 of 8192 bytes store a FAT file system configured by FAT and data files managed by FAT*; par. 0257; *management data sector is specified so that the address of the free area is recorded*; par. 0116; *management data recorded in the recordable area is the management information which is rewritten*; par. 0131; *when recording to the disk, the disk drive apparatus searches sector 0 for the free area on the disk and records data in the free area*; pars. 0159; 175], said first access size is a physical management block size determined from physical characteristics of said information recording medium and said second access size is an access unit of said information recording medium [*the handling of data in the FAT file system is performed on a FAT sector basis*; par. 0258; *one cluster is composed of 4 link sectors; the physical address is assigned on a sector basis composed of cluster address as the upper value and sector address as the lower value*; pars. 0151, *the link information indicative of the table recording the start and end addresses of the linked information is recorded; the start address and the end address are the values equivalent to the cluster/sector addresses*; pars. 0165].

As per claim 14, Ohbni discloses said FAT cache controller reads data

from the information recording medium and holds them to a block having the size

of the first access size, a size of the data is the physical management block size

determined from physical characteristics of said information recording medium,

when holding the area management information stored in a location of other than

a head or end of said area management information [*controller 3 for buffer/cache

memory 4; the controller 3 controls the transfer and recording of data; the buffer memory 4

buffers the data read under the control of controller 3; the controller 3 transfers stored in the

buffer memory 4 as rewritten in necessary FAT sectors*; pars 0267, 0268, 0280; *the size of a

logical sector is smaller than that of a cluster, therefore, in the disk drive, it is necessary to

convert each logical sector into a physical address wherein each of the logical sectors as FAT

sectors is 2048 bytes, the numbers starting with 0 and the data cluster 65536 bytes*; pars.

0333-0334, 0336], and said FAT cache controller reads data from the information

recording medium and holds them, the size of the data is equal to or less than

said physical management block size, when holding the area management

information stored in a location of the head or end of said area management

information [*the size of a logical sector is smaller that that of a cluster, therefore, in the disk

drive, it is necessary to convert each logical sector into a physical address wherein each of the

logical sectors as FAT sectors is 2048 bytes, the numbers starting with 0 and the data cluster

65536 bytes*; pars. 0333-0334, 0336].

As per claim 15, Ohbni discloses said file system controller accesses to: a

block having the first access size included in said FAT cache through said FAT

cache controller when free area retrieval processing for retrieving an free area

from said area management information [Fig. 7; *a sector specified so that the address of the program area and the address of the free area is recorded allowing retrieval of the free area information*; par. 0116; *a status of managing parts which provide free areas and the free areas and the status is represented by pointer by the link of part tables*; par. 0176; *the size of a logical sector is smaller than that of a cluster, therefore, in the disk drive, it is necessary to convert each logical sector into a physical address wherein each of the logical sectors as FAT sectors is 2048 bytes, the numbers starting with 0 and the data cluster 65536 bytes*; pars. 0333-0334, 0336], and a block having the second access size included in said FAT cache through said FAT cache controller when a link destination acquisition processing for acquiring a destination to be linked from said area management information [Fig. 7, *the link information indicative of the table recording the start and end addresses of the linked information is recorded*; pars. 0165, 0176; *the size of a logical sector is smaller than that of a cluster, therefore, in the disk drive, it is necessary to convert each logical sector into a physical address wherein each of the logical sectors as FAT sectors is 2048 bytes, the numbers starting with 0 and the data cluster 65536 bytes*; pars. 0333-0334, 0336].

Claim Rejections - 35 USC § 103

13.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating
   obviousness or nonobviousness.

14.   Claims 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Ohbi (2004/0047602) and Pfister (2003/0033487).

As per claim 6, Ohbi discloses a cache having management block size provided

as area management information cache in said information processor [*a data area having a*

first cache management data and a data area having second management data; par. 0017; *a request*

to read a particular FAT sector wherein the retrieved cluster is written into the cluster buffer memory (i.e.,

cache); par. 0276; *converting logical sector into physical address and converting reading/writing on a*

logical sector basis into reading/writing on a cluster basis by use of the cluster buffer memory; pars.

0336, 0344].

Ohbi does not explicitly teach two caches each having a different management

block size are provided as area management information caches in said information

processor, and by using said two caches for each different purposes, said access size

is changed according to the processing content in said information processor.

Pfister, however, discloses two caches each having a different management

block size are provided as area management information caches in said information

processor, and by using said two caches for each different purposes, said access size

is changed according to the processing content in said information processor [*a method*

for managing a plurality of caches on a plurality of independent computers wherein blocks of data may

take many sizes and each block of data may be a different size from another block of data; replacing

blocks in a cache depending on the rate of new block use and the size of the cache; pars. 0012,

0113, 0115].

   Thus, it would have been obvious to one of ordinary skill in the art, at the time of

invention by applicant, to modify the system of Ohbi to include two caches each having

a different management block size provided as area management information caches in

said information processor, and by using said two caches for each different purposes,

said access size being changed according to the processing content in said information

processor because doing so would have provided an improved method for managing

operations to access data in a distributed system (par. 0011) as taught by Pfister.

   As per claim 7, Ohbi discloses a processing content in said information processor

comprises: a free area retrieval processing for retrieving an free area from said area

management-information [Fig. 7; *a sector specified so that the address of the program area and*

the address of the free area is recorded allowing retrieval of the free area information; par. 0116; *a*

status of managing parts which provide free areas and the free areas and the status is represented by

pointer by the link of part tables; par. 0176]; and a link destination acquisition processing for

acquiring a destination to be linked from said area management information [Fig. 7, *the*

link information indicative of the table recording the start and end addresses of the linked information is

recorded; pars. 0165, 0176].

As per claim 8, the combination of Ohbi and Pfister would have achieved the same end result as the claimed invention since Pfister discloses two caches with management information areas [*managing a plurality of caches;* pars. 0012, 0113, 0115] and Ohbi discloses two area management information [*a data area having a first cache management data and a data area having second management data;* par. 0017] as shown in claim 6 and Ohbi further discloses as an alternative use of said two area management information caches, when the processing content in said information processor is said free area retrieval processing, a physical management block size determined from physical characteristics of said information recording medium or a first area management information cache having a size less than the size is used [*management data sector is specified so that the address of the free area is recorded;* par. 0116; *management data recorded in the recordable area is the management information which is rewritten;* par. 0131; *when recording to the disk, the disk drive apparatus searches sector 0 for the free area on the disk and records data in the free area;* pars. 0159; 175], and when the processing content in said information processor is said link destination acquisition processing, a second area management information cache as minimum an access unit of said information recording medium is used [*one cluster is composed of 4 link sectors; the physical address is assigned on a sector basis composed of cluster address as the upper value and sector address as the lower value;* pars. 0151, *the link information indicative of the table recording the start and end addresses of the linked information is recorded; the start address and the end address are the values equivalent to the cluster/sector addresses;* pars. 0165].

Thus, it would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to modify the system of Ohbi to include two caches with management information areas because doing so would have provided an improved method for managing operations to access data in a distributed system (par. 0011) as taught by Pfister.

As per claim 9, the combination of Ohbi and Pfister would have achieved the same end result as the claimed invention since Pfister discloses two caches with management information areas [*managing a plurality of caches;* pars. 0012, 0113, 0115] and Ohbi discloses two area management information [*a data area having a first cache management data and a data area having second management data;* par. 0017] as shown in claim 6 and Ohbi further discloses as the access size to said area management information which uses said first area management information cache, when access to a location other than a head or end of said area management information is performed, a physical management block size determined from physical characteristics of said information recording medium is used [*one cluster is composed of 4 link sectors; the physical address is assigned on a sector basis composed of cluster address as the upper value and sector address as the lower value;* pars. 0151; *when recording a track to the disk, the disk drive apparatus searches the sector 0 for the free area on the disk and records data in the retrieved free area and later accesses the retrieved area;* par. 0159], and when access to the head or end of said area management information is performed, a size equal to or less than said physical management block size is used [*the size of a logical sector is smaller that that of a cluster, therefore, in the disk drive, it is necessary to convert each logical sector into a physical address wherein each of the logical sectors as*

FAT sectors is 2048 bytes, the numbers starting with 0 and the data cluster 65536 bytes; pars. 0333-0334, 0336].

Thus, it would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to modify the system of Ohbi to include two caches with management information areas because doing so would have provided an improved method for managing operations to access data in a distributed system (par. 0011) as taught by Pfister.

As per claim 10, Ohbi discloses when access to the head or end of the area management information is performed, using said first area management information cache, the access size is a size of said area management information in the physical management block determined from physical characteristics of said information recording medium [*when recording a track to the disk, the disk drive apparatus searches the sector 0 for the free area on the disk and records data in the retrieved free area and later accesses the retrieved area*; par. 0159; *the size of a logical sector is smaller that that of a cluster, therefore, in the disk drive, it is necessary to convert each logical sector into a physical address wherein each of the logical sectors as FAT sectors is 2048 bytes, the numbers starting with 0 and the data cluster 65536 bytes*; pars. 0333-0334, 0336].

As per claim 11, Ohbi discloses a cache used only for an exclusive processing of reading [*read/write operation on a hidden data area is allowed only for particular devices in which the read/write operation is performed*; par. 0260].; said first area management information cache is used when the information stored in said area management information is changed

[*the system controller supplies the data of the FAT sector to the memory controller to rewrite the data of the FAT sector in the buffer memory 4*; par. 0279; *the handling of data in the FAT file system is performed on a FAT sector basis; a rewriting operation on the disk is performed on a data cluster basis so that in the case of the rewriting of one particular FAT sector, the rewriting on the disk is performed in a unit of the data cluster in which this FAT sector is included*; pars. 0257, 0258].

Ohbi does not explicitly disclose a second area management information cache.

Pfister discloses a second area management information cache [*a method for managing a plurality of caches on a plurality of independent computers wherein blocks of data may take many sizes and each block of data may be a different size from another block of data; replacing blocks in a cache depending on the rate of new block use and the size of the cache*; pars. 0012, 0113, 0115].

Thus, it would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to modify the system of Ohbi to include a second area management information cache wherein that second cache is used only for an exclusive processing of reading (as shown in Ohbi) because doing so would have provided an improved method for managing operations to access data in a distributed system (par. 0011) as taught by Pfister.

Conclusion

15.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

16.   When responding to the office action, Applicant is advised to clearly point out the

patentable novelty that he or she thinks the claims present in view of the state of the art

disclosed by references cited or the objections made. He or she must also show how

the amendments avoid such references or objections. See 37 C.F.R. 1.111(c).

17.   When responding to the Office action, Applicant is also advised to clearly point

out where support, with reference to page, line numbers, and figures, is found for any

amendment made to the claims.

18.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Mardochee Chery whose telephone number is (571)

272-4246. The examiner can normally be reached Monday to Friday, from 8:30A-

5:00P.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Hyung Sough can be reached Monday to Friday, at (571) 272-6799. The

fax phone number for the organization where this application or proceeding is assigned

is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

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Status information for unpublished applications is available through Private PAIR only.

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you have questions on access to the Private PAIR system, contact the Electronic

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Matt Kim/
Supervisory Patent Examiner, Art
Unit 2186

July 24, 2009

/M.C./

Mardochee Chery
Examiner
AU: 2188